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# ENVIRON- MENTAL AGENDA

MARCH 1989

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ROY ROMER GOVERNO

# STATE OF COLORADO

## EXECUTIVE CHAMBERS

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Roy Romer  
Governor

March, 1989

Next to its people, the natural environment is Colorado's greatest asset. Our vast high plains, 14,000-foot mountain peaks, pristine lakes and streams, colorful canyons and inviting climate are all part of what makes Colorado an attractive place to live and work.

Colorado's economy and its environment are inextricably linked. We must protect our environment to maintain our comparative economic advantage. But we also must protect our environment to preserve our quality of life, maintain public health, and ensure that future generations benefit from the same environment we value today.

Colorado faces many environmental challenges, and yet we lag behind other states in some protection and management programs. We lack the basic statutory requirements for environmental protection in some areas. More importantly, we lack a cohesive, long-range plan to guide our efforts.

This Environmental Agenda is the first step in establishing Colorado's environmental priorities. It highlights what I believe are the most pressing environmental issues facing our state, and outlines immediate actions I am directing state agencies to take. A draft of this agenda was circulated in 1988. Changes between that draft and this final agenda reflect comments we received from interested parties as well as the rapid pace of change in some areas.

But even this final agenda is not all-inclusive. If our children are ever to know the unmatched beauty of Colorado, we must have the foresight to protect and manage our environment over the long term. In addition to this agenda, Coloradans need a comprehensive, long-range plan based on our vision of what this state should be in the 21st century. That plan must define the environmental strategies to realize that vision.

That is why we have initiated a process to develop The Colorado Environment 2000 Plan.

The Environment 2000 Plan will provide Coloradans the opportunity to look at our state's long-range environmental needs and to develop a comprehensive plan for meeting those needs. It will build upon initiatives already underway in Colorado or proposed in this agenda, but it will also move beyond them.

There will be three phases to the development of The Environment 2000 Plan. In the first phase we will assess the condition of the state's environment, define problems and set goals. In the second phase we will identify and compare options for meeting those goals. In the third phase we will select preferred options, refine their specific elements and actions, and develop a system to track progress of their implementation.

The Colorado Department of Health and the Colorado Department of Natural Resources will provide technical support for this effort, which will be directed by the Governor's Office. The federal Environmental Protection Agency has provided financial assistance. A special citizens advisory committee will be appointed to guide the process and make recommendations. That committee will include representatives of local governments, local health departments, environmental groups, business interests, and citizen organizations, and will meet with the public throughout the process.

The first phase of the Environment 2000 Plan should be completed and ready for statewide review by spring 1989. The second and third phases, and the final report, should be completed by the end of 1989.

As with the immediate questions addressed in this Environmental Agenda, the success of The Environment 2000 Plan depends on the good faith and hard work of all Coloradans who care about our state, our economy and our environment. Any plan designed predominantly by and for one or another interest group surely will fail. To be a success, The Environment 2000 Plan must embody those values and expectations we all share and which we all can work to obtain for ourselves and our posterity.

Protecting Colorado's natural environment must not be a partisan cause. I am confident that Colorado citizens, businesses, government officials and interest groups are worthy of this challenge. We have too much at stake not to succeed.

Sincerely,

A handwritten signature in black ink that reads "Roy Romer". The signature is fluid and cursive, with the first and last names clearly legible.

Roy Romer  
Governor

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### Environmental Priorities

#### Air Quality

• Reduce carbon monoxide (CO) levels along the Front Range.

• Clean up the "brown cloud" along the Front Range.

• Reduce particulate levels and maintain high visibility in rural areas.

• Encourage multi-state approach to rural visibility and haze in the West.

• Keep air safe from toxic and hazardous pollutants.

• Minimize transportation system impacts on air quality.

## **Chapter I**

# **Summary of Priorities**

This agenda outlines those environmental health and ecological resource issues which Coloradans will face over the next several years. It also lists the actions Colorado should take to address these issues. Some of these actions already are planned or underway. Others are proposed here for immediate consideration.

This chapter summarizes the state's near-term environmental priorities. Those actions proposed or underway to achieve these priorities are set forth in detail in Chapter II. In some cases, the Administration lacks the authority or the responsibility to effect needed changes. In these instances, this agenda suggests actions other state, local or federal agencies should be encouraged to take.

## **Environmental Priorities**

### **Air Quality**

- Reduce carbon monoxide (CO) levels along the Front Range.
- Clean up the "brown cloud" along the Front Range.
- Reduce particulate levels and maintain high visibility in rural areas.
- Encourage multi-state approach to rural visibility and acid rain in the West.
- Keep air safe from toxic and hazardous pollutants.
- Minimize transportation system impacts on air quality.

# Environmental Priorities

## Hazardous and Radioactive Materials

- Promote the cleanup and beneficial use of the Rocky Mountain Arsenal.
- Promote the cleanup and proper management of the Rocky Flats Plant.
- Clean up Superfund and other old waste contamination sites.
- Clean up leaking underground storage tanks.
- Improve solid and hazardous waste management.
- Reduce threats from the misapplication of pesticides.
- Improve the state's emergency response capabilities.
- Continue support for the Uranium Mill Tailings Remedial Action Program.
- Develop a low level radioactive waste and radium waste disposal site in Colorado.
- Reduce the threat from radon gas and asbestos in public and private buildings.

## Land Management

- Establish a statewide open space program.
- Manage public lands for long-term public benefit.
- Minimize the harmful consequences of natural and man-made hazards.
- Protect Colorado's soils.
- Protect natural features of statewide importance.

## Minerals and Energy

- Ensure environmentally sound mining and mined land reclamation.
- Reduce health and safety hazards at abandoned and inactive mines.

## Outdoor Recreation

- Develop and promote Colorado's state park system.
- Promote river recreation.
- Promote access to outdoor recreation.

## Water Management

- Ensure conditions set for Two Forks permit are met by the applicant.
- Promote efficient use of Colorado water.
- Provide protection for Basins-of-Origin.
- Maintain Colorado's instream flow program.
- Implement policies to balance development and environmental needs.
- Reconcile state and federal approaches to permitting.
- Manage Colorado's groundwater supplies.

State agencies are working on a variety of general initiatives to enhance the State's environmental programs.

## Water Quality

- Protect against contamination of drinking water supplies.
- Prevent future and alleviate existing ground water contamination.
- Maintain and enhance the quality of Colorado's lakes and streams.
- Maintain adequate resources to implement water quality control and drinking water programs.

## Wildlife

- Protect and enhance wildlife and its habitat.
- Enhance hunting, fishing and other wildlife recreation opportunities.
- Protect threatened and endangered species in Colorado.
- Provide a sound base for the future funding of wildlife programs.

## Chapter II

# Environmental Initiatives

### Introduction

This chapter details those actions state agencies are taking or are considering to address the environmental priorities outlined in Chapter I. These actions form the basis of effective environmental protection and management in Colorado. Each action item is preceded by a brief statement of the issues to be addressed.

Several common themes run throughout this agenda. Consistent regulation and a commitment to environmental quality on the part of responsible agencies, boards and commissions are essential. More efficient administrative procedures will enhance the effectiveness of environmental programs. And better access to information and broader public understanding of environmental programs will enhance decision making.

Thus, in addition to the specific action items outlined here, state agencies are working on a variety of general initiatives to enhance the state's environmental programs. These include:

- State interagency working groups which are coordinating and streamlining environmental regulation and permitting. The Joint Review Process in the Department of Natural Resources will continue to coordinate federal, state and local permitting of important development projects. The Health Department also has established an Environmental Information Center to consolidate in one location information on all its environmental regulations and permitting requirements.
- The Department of Health's ongoing assessment of health risks associated with various environmental problems. This assessment should help the state set priorities which ensure its scarce resources are focused on the most pressing environmental health problems.

*State agencies are working on a variety of general initiatives to enhance the State's environmental programs.*

## Environmental Initiatives

- Plans to design, as part of the Environment 2000 process, an index of key environmental indicators. This Environmental Index would allow us to track the quality of Colorado's environment over time and help inform the public on important environmental issues.

The purpose of these broad initiatives is to enhance the quality and efficiency of the state's specific environmental initiatives, many of which are discussed below.

State agencies are working on a variety of general initiatives to enhance the state's environmental programs.

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■ The Department of Health's ongoing assessment of health risks associated with various environmental problems. This assessment should help the state set priorities which create its scarce resources are focused on the most pressing environmental health problems.

### 1. Reduce carbon monoxide (CO) levels along the Front Range.

#### Issues

The federal Clean Air Act required Colorado to comply with CO standards by the end of August, 1988. Four areas along Colorado's Front Range did not meet that deadline and may be subject to federal sanctions.

Front Range communities have reduced significantly the number of days they violate the CO standard. However, metro Denver still exceeds the standard an average of 25-40 days a year. Colorado Springs, Fort Collins and Greeley have problems that are less severe, but have yet to attain federal standards.

The primary sources of CO along the Front Range are gasoline vehicles, residential fireplaces and wood stoves. The problem often is aggravated by geographic and meteorological factors.

#### Actions

The state, in cooperation with local governments, must continue its current array of pollution control strategies and implement additional strategies to reduce carbon monoxide levels in all areas which violate federal CO standards.

For metropolitan Denver, the Colorado Air Quality Control Commission must develop a revised State Implementation Plan (SIP) to meet and maintain compliance with federal ambient air quality standards for CO within a reasonable time.

The SIP for metro Denver should include all five strategies listed below. Colorado Springs, Fort Collins and Greeley also should adopt as many of these strategies as is necessary to attain and maintain compliance with standards within a reasonable time. The five strategies are:

- a) Continuation of the Better Air Campaign, to ensure public participation in a range of pollution control strategies. Because of questions about the campaign's effectiveness in reducing vehicle miles travelled in the Denver metro-area, the Better Air Campaign has been redirected for 1989. The campaign will become a year-round effort for the front range and certain west slope cities. Efforts will focus on creating specific programs in the business and government sectors to reduce emissions. Reduction strategies will include commitments to improve fleet technologies, reduce driving, use alternative fuels, schedule more efficient routing and

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## Air Quality

offer employee flex-time. The campaign will also undertake a public information program within Colorado schools.

- b) Aggressive implementation of Colorado's improved gasoline vehicle inspection and maintenance program, which began July 1, 1987, to bring a higher percentage of Front Range vehicles into compliance with state CO emission standards.
- c) Wintertime use of oxygenated fuels by all gasoline vehicles in the state's inspection and maintenance program area to reduce CO emissions. This program was mandated by the AQCC and began on January 1, 1988.
- d) Metro-wide wood burning ban on high pollution days to reduce CO and particulate emissions. The Administration supports a state ban covering the entire metro area.
- e) Improved public transportation, including construction of a mass transit system, high occupancy vehicle lanes and dedicated bus lanes throughout the metro area.

In addition to these strategies to which the state already is committed, the Air Pollution Control Division of the Colorado Department of Health is assessing the potential air-quality benefits of year-round daylight savings time. Proponents claim this strategy would allow the bulk of wintertime rush hours to take place prior to the onset of pollution-trapping inversions. In considering this strategy, the state will weigh the advantages to non-attainment areas against the potential disadvantages to the rest of Colorado.

State officials will work with Colorado's congressional delegation and the appropriate congressional committees to achieve the prompt reauthorization of a federal Clean Air Act with provisions that reflect Colorado's needs. These revisions include extension of CO attainment deadlines, extension of warranties on automobile emission systems, establishment of cold-start emission standards, extension of high-altitude emission standards to all light- and heavy-duty trucks, more stringent tailpipe emission standards, increased in-use testing at high altitudes and authority for states to adopt year-round daylight savings time as an air quality strategy. The state also supports provisions to address pollutants other than CO.

Finally, state health officials will continue developing good working relationships with U.S. Environmental Protection Agency officials and representatives of the automobile industry in such areas as automobile emissions testing.

### 2. Clean up the brown cloud along the Front Range.

#### Issues

The brown cloud causes serious environmental and economic problems along the Front Range and throughout the state. Materials attached to small particles in the brown cloud may cause adverse health effects and visibility problems inhibit business development along the Front Range.

Metropolitan Denver violates new federal standards for the fine particulates, some of which make up the "brown cloud." The 1987-88 Metro Denver Brown Cloud Study showed the largest contributors to be mobile sources and wood burning. Other sources include power plants, refineries and reentrained dust.

The Brown Cloud Study showed that secondary particles sometimes contribute up to 50 percent of the brown cloud, though it was unable to trace these particles back to their original sources. Secondary particles are particles formed by the interaction in the atmosphere of clear gases, in this case nitrogen oxides, sulfur dioxide and ammonia.

#### Actions

The Governor has called on the people of the metropolitan area to cut the brown cloud in half by the turn of the century.

Building on the results of the Brown Cloud Study, Colorado should develop a Brown Cloud Action Plan designed to meet that goal. This plan should be developed through an open process involving the Governor, the Legislature and the Air Quality Control Commission in consultation with the Health Department, the Metropolitan Air Quality Council and other parties. This plan should serve as a basis for a State Implementation Plan for attaining federal particulate standards in the metropolitan area.

Any Brown Cloud Action Plan should include, but not be limited to, the following:

- a) Establishment of a "Brown Cloud War Chest" with federal, state, local and private funds to help fund pilot projects with alternative fuels, a high-altitude heavy-duty emissions lab, studies on sanding and street sweeping and other projects to reduce the brown cloud. The Governor already has committed over \$800,000 to this fund.
- b) Calling high-pollution days because of poor visibility as well as high carbon monoxide levels.

*The Governor has called on the people of the metropolitan area to cut the brown cloud in half by the turn of the century.*

## Air Quality

- c) A mandatory wood burning ban on high-pollution days throughout the metropolitan area.
- d) Strict emission standards for new wood stoves and fireplaces, and incentives to replace, convert to natural gas or retire existing wood stoves and fireplaces.
- e) Strategies to reduce diesel emissions on the Front Range. The General Assembly recently adopted, and the Governor signed into law, a diesel inspection and maintenance program which will take effect in 1990. The state also will use part of the Brown Cloud War Chest to promote alternative fuels and help fund a heavy-duty mass emissions lab.
- f) Tighter state standards for smoking vehicles (opacity), and better enforcement of these standards.
- g) Strong support for a national diesel fuel standard.
- h) Strategies to reduce levels of reentrained dust, including street-sanding standards and better street cleaning.
- i) A state standard for reducing sulfur dioxide and nitrogen oxide emissions from coal-burning plants that affect metropolitan area air quality. Public Service Company of Colorado already has committed to retrofit its metro Denver plants to achieve significant reductions in emissions of sulfur dioxide and nitrogen oxides. Colorado and the City of Denver also will work with PSCO to secure federal funds to experiment further with clean-coal technologies.

### 3. Reduce particulate levels in rural areas.

#### Issues

Although air quality in most rural areas of Colorado are among the best in the country, Aspen, Pagosa Springs, Telluride, and Canon City are expected to violate the new federal standards for fine particulates. These communities will be required to develop state implementation plans (SIPs) to show attainment of these standards. Thirteen more communities have fine particulate levels which necessitate contingency plans. If the levels increase in those communities, they also will be required to develop SIPs.

## **Actions**

The state will continue to provide information and staff assistance to small communities to help identify local sources of particulates, develop SIPs and implement strategies to reduce particulate levels.

### **4. Encourage multi-state approach to rural visibility and acid rain in the West.**

#### **Issues**

Growing levels of nitrogen oxides and sulfur dioxide in the West have significantly reduced visibility in Colorado's mountains and parks. Continued growth in levels of these pollutants may also lead to acid rain in Colorado and throughout the West. Colorado's mountain lakes and streams contain little natural buffering capacity and are highly vulnerable to acid rain.

Sources of these pollutants include power plants, other industrial activities and mobile sources throughout the West. Emissions often travel hundreds of miles and cross state lines between their source and an area of impact. The most cost-effective way to reduce these pollutants will be through a multi-state effort rather than state-by-state programs.

#### **Actions**

The Governor's Office and the Colorado Department of Health will work with other western states to develop a joint approach to reduce nitrogen oxide and sulfur dioxide emissions throughout the West. Such an approach must be sensitive to the economic impacts of proposed actions and should encourage solutions which favor the use of western resources.

In addition, Colorado should consider statewide visual air quality standards. The Colorado Air Quality Control Commission established a subcommittee to work on a statewide approach to visibility improvement and protection and will consider setting standards in 1989.

### **5. Keep air safe from toxic and hazardous pollutants.**

#### **Issues**

Colorado has only a minimal program to address environmental health risks from toxic and hazardous air pollutants. Due to a lack

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## Air Quality

*Experts predict that vehicle miles travelled in Colorado's urban areas will double over the next 25 years.*

of resources, air quality standards exist for only six of the potentially hundreds of toxic air pollutants in Colorado which may cause adverse health effects if not properly identified and controlled.

Of the hundreds of toxic air pollutants in Colorado which may cause adverse health effects if not properly identified and controlled, Colorado has air quality standards for only six.

### **Actions**

The Colorado Department of Health should identify toxic and hazardous pollutants which pose significant threats to Coloradans and adopt standards to guard against these threats.

## **6. Minimize transportation system impacts on air quality.**

### **Issues**

Between 70 and 80 percent of the carbon monoxide in Colorado Springs, Denver and Greeley comes from automobiles. At times, motor vehicles are responsible for over 50 percent of Metro Denver's brown cloud. Transportation-related activities also contribute significant levels of fine particulates, ozone and oxides of nitrogen along the Front Range.

Experts predict that vehicle miles travelled (VMT) in Colorado's urban areas will double over the next 25 years, increasing the number and severity of violations of fine particulate and carbon monoxide standards and brown cloud episodes. Increased VMT also raises concern about maintaining safe ozone and nitrogen dioxide standards in the future.

### **Actions**

Serious consideration of the long-term air quality impacts of regional highways and other large construction projects must be integrated into state and local decisionmaking processes. The Colorado departments of health and highways, the Air Quality Control Commission, and local and regional planning agencies must increase coordination and jointly develop mitigation strategies. This is particularly important in metro Denver and Colorado Springs.

Planning for an improved mass transit system in metro Denver must proceed expeditiously. The state will work with federal agencies, local governments, regional planning entities, businesses and private organizations to help promote affordable and reliable mass transit.

## Hazardous and Radioactive Materials

### 1. Promote the cleanup and beneficial use of the Rocky Mountain Arsenal.

#### Issues

The RMA is one of the most contaminated sites in the nation. The Army has yet to develop a satisfactory plan for cleaning up all sources of contamination which conforms to state environmental standards and responds adequately to citizen concerns.

The Arsenal violates state hazardous waste laws, and federal agencies have refused to assure compliance with state environmental standards. Contaminated soils and ground water at or emanating from the Arsenal need to be cleaned up. An agreement has been reached that will supply South Adams County residents with a permanent safe drinking water system for current demand, but future treatment needs will also have to be met by cleaning up ground water north of the Arsenal.

Since 1983, the state has pursued litigation against the federal government to force it to clean up pollution from the Arsenal, comply with state environmental standards and pay for damages incurred. Continuing financial resources are needed to support the state team and hire outside technical experts to fully pursue this effort.

#### Actions

The state will continue to negotiate and, if necessary, litigate, with the U.S. Army, U.S. EPA and Shell Oil Company to secure a cleanup agreement which meets the state's health and environmental concerns and preserves the state's role in monitoring the cleanup.

The state should continue to provide adequate resources for the departments of Health and Natural Resources and the Attorney General to retain technical support for the State's RMA litigation and negotiation team.

The state should work with interested parties, including local governments, to develop a vision and plan for putting the Arsenal land to beneficial use when the cleanup is completed.

*The Arsenal violates state hazardous waste laws, and federal agencies have refused to assure compliance with state environmental standards.*

## Hazardous and Radioactive Materials

*The Colorado Health Department will not sanction the proposed trial burn at Rocky Flats unless Rocky Flats can demonstrate that incineration is a safe and effective way to dispose of the wastes in question.*

### 2. Promote the cleanup and proper management of the Rocky Flats Plant.

#### Issues

The Rocky Flats Plant has extensive on-site contamination from hazardous and radioactive wastes that were improperly managed.

The Colorado Department of Health currently is implementing the 1986 consent decree between the state, the U.S. EPA and the U.S. Department of Energy which gives the state authority over the management of hazardous and "mixed" hazardous and radioactive waste operations at the plant.

The U.S. Department of Energy has proposed to incinerate low level mixed wastes at the Rocky Flats Plant. The Health Department is awaiting the environmental assessment on the trial burn.

Citizens near the plant wish to be informed about plant activities and the health risks associated with past contamination, current operations and waste management programs. The health risks associated with the plant's activities still are debated.

Some activities at the Rocky Flats Plant are self-regulated and not subject to state standards. This does not promote public confidence in the plant's contamination abatement and control efforts.

To fully inform and involve the public on environmental and health issues at the plant, the Governor and Rep. David Skaggs have established the Rocky Flats Environmental Monitoring Council.

Recent action by the State of Idaho has forced a waste-storage crisis in the nation's nuclear weapons complex, of which Rocky Flats is part. An interim solution to this crisis is needed urgently to avoid major disruptions in the system and in the Colorado economy.

#### Actions

The consent decree is being implemented. The U.S. Department of Energy is planning the cleanup of past contamination associated with hazardous and mixed wastes. The Health Department will scrutinize these plans to assure that they protect public health and the environment.

The Colorado Health Department will not sanction the proposed trial burn at Rocky Flats unless Rocky Flats can demonstrate that incineration is a safe and effective way to dispose of the wastes in question. Before accepting any particular remedial technology, the

## Hazardous and Radioactive Materials

state will review the environmental assessment being prepared by the U.S. Department of Energy to determine if all reasonable on- and off-site waste treatment and management options have been investigated.

The Health Department will seek funding from the federal government and other sources to conduct a comprehensive health risk assessment and epidemiological study of the health effects of the plant to inform citizens better and to help the state plan for its long-term regulatory needs.

Colorado will continue to advocate strongly for state environmental oversight and regulation of facilities belonging to the Department of Energy, the Department of Defense or other federal agencies.

In addition, Colorado supports federal legislation to create independent federal oversight at facilities such as Rocky Flats. The state also will work with the Congressional delegation to ensure that adequate federal funds are earmarked for environmental cleanup at Rocky Flats.

Colorado will not amend the existing state permits to expand on-site storage capacity for Transuranic waste at Rocky Flats. The crisis over interim storage of these wastes is a national issue and cannot be addressed or solved by Colorado alone. The Governor will continue to work with the U.S. Department of Energy and the governors and Congressional delegations of other western states to find an interim solution until the Waste Isolation Pilot Project opens in New Mexico.

### 3. Clean up Superfund and other old waste contamination sites.

#### Issues

The cleanup of Superfund sites such as Lowry Landfill and Denver Radium should be expedited to minimize the risks to public health and the environment from past disposal practices.

Even if it can identify a responsible party, the Department of Health has no statutory authority to order that party to clean up contamination at an inactive site. The department also has no authority to recover from polluters any cleanup or investigation costs without resorting to expensive federal lawsuits.

In the 1988 session, the General Assembly extended the time frame for the state to participate in Superfund National Priorities List (NPL) sites and gave authority for the necessary state matching funds.

## Hazardous and Radioactive Materials

*The Colorado Health Department will not sanction the proposed trial burn at Rocky Flats unless Rocky Flats can demonstrate that incineration is a safe and effective way to dispose of the wastes in question.*

*Hundreds of underground storage tanks leak in Colorado, and many will contaminate ground water supplies or sewer systems unless an effective program is put in place to clean up these leaking tanks.*

Colorado has no good mechanism for identifying and monitoring abandoned or inactive sites which are not on the National Priorities List but which may have to be cleaned up. Colorado's funding mechanism does not generate adequate funds to clean up sites which the federal government does not include on the NPL.

### **Actions**

The Colorado Department of Health needs to define the magnitude and extent of old waste contamination site problems in Colorado. They should also identify any statutory changes which may be necessary to assure adequate cleanup of those problem sites which are not on the National Priorities List.

## **4. Clean up leaking underground storage tanks.**

### **Issues**

Hundreds of underground storage tanks leak in Colorado, and many will contaminate ground water supplies or sewer systems unless an effective program is put in place to clean up these leaking tanks. Federal law provides substantial funds for cleaning up and preventing future leaks should Colorado obtain delegation from the U.S. EPA for regulating underground storage tanks.

Legislation to address this issue did not pass during the 1988 legislative session.

### **Actions**

The Department should pursue full delegation of the Underground Storage Tank (UST) Program from EPA and cooperate fully with the State Oil Inspector in the Department of Labor and Employment to correct problems and properly manage these tanks.

The Administration again will ask the Legislature in the 1989 session to authorize a full state program to control leaking underground storage tanks and to appropriate matching cash and general funds for clean-ups.

The state must assess the status of underground storage tanks owned by state agencies, including the Department of Highways.

## Hazardous and Radioactive Materials

### 5. Improve solid and hazardous waste management.

#### Issues

The Colorado Department of Health manages most of the federal hazardous waste programs in Colorado but has yet to receive delegation of the Hazardous and Solid Waste Amendments Act program from the U.S. EPA as authorized in the 1984 amendments to the Resource Conservation and Recovery Act. This delegation would enhance the state's ability to secure cleanup of many waste sites and eliminate dual regulation of industry in Colorado.

Colorado and local governments need a cooperative statewide plan for managing solid wastes. The lack of such a plan increases the likelihood of mismanagement and forces local officials to react on an ad hoc basis to new applications for landfills.

Many landfills and dumps in Colorado are not adequately inspected or monitored. These will be the Superfund sites of tomorrow if they are not adequately operated and monitored today. The Health Department has only two inspectors for 250 active sites and hundreds of inactive sites throughout the state.

Colorado has few programs to promote resource conservation, recycling or waste minimization. The state should implement a program to advise citizens and businesses how to reduce production of solid and hazardous wastes.

#### Actions

The Health Department has applied to EPA for delegation of the full hazardous waste program. EPA should promptly delegate the program to Colorado.

The Health Department should work with the state's Hazardous Waste Rules Committee to improve the permitting process for hazardous waste activities.

The state should prepare a statewide solid waste management plan in cooperation with local governments, private industry and other interested parties. State solid waste laws should be amended to allow a cash-funded program for state and local health agencies to monitor and inspect landfills throughout the state. The Colorado Legislature did not enact a bill in 1988 to address this issue and should pass the legislation in the 1989 session.

The Governor's Office and six state agencies are participating in a pilot program to promote recycling of waste paper. In 1989 this program will be expanded to all state agencies.

*The Health Department should develop programs which encourage resource conservation, recycling, waste minimization, and the regionalization of solid waste disposal sites.*

## Hazardous and Radioactive Materials

As part of a statewide solid waste management plan, the Health Department should develop programs which encourage resource conservation, recycling, waste minimization and the regionalization of solid waste disposal sites.

State agencies, local governments, tourism organizations, educational institutions, civic groups and the business community should mount an aggressive campaign to reduce waste generation, promote screening of junk facilities in all counties and foster public consciousness about litter reduction.

The state, in cooperation with private research organizations, should investigate and promote alternative waste disposal technologies such as waste-to-energy facilities and re-use of tires to decrease the need for new landfills.

### **6. Reduce threats from the misapplication of pesticides.**

#### **Issues**

Chemical pesticides can threaten drinking water and public health in rural Colorado. Many small pesticide applicators are unfamiliar with regulations under the Resource Recovery and Conservation Act or with proper methods of disposal and decontamination. Even where applicators are complying with the requirements, local landfills have been reluctant to accept containers and equipment.

There is little data on the presence of pesticides in Colorado's drinking water supplies. However, national data suggests this may be a problem, especially in agricultural areas.

#### **Actions**

The Health Department, in cooperation with local governments, private industry and other state agencies, should review container disposal options currently available to commercial pesticide applicators. Applicators and landfill operators should be informed of pertinent statutes and regulations, and of techniques that will assure compliance.

The Health Department should develop a plan to determine the degree to which pesticides are present in Colorado's drinking water sources.

*Hundreds of underground storage tanks leak in Colorado, and many will contaminate ground water supplies or sewer systems unless an effective program is implemented. There is little data on the presence of pesticides in Colorado's drinking water supplies. However, national data suggests this may be a problem, especially in agricultural areas.*

## Hazardous and Radioactive Materials

### 7. Improve the state's emergency response capabilities.

#### Issues

Colorado citizens need protection from hazardous or radioactive substance accidents, and should be aware of those toxic chemicals which are present in their communities.

State and local agencies are not adequately funded to provide emergency planning and response services for citizens throughout Colorado. Emergency response entities within the state need additional training.

State and local agencies also have few resources for emergency planning or to provide for citizen access to information on toxic chemicals in their communities, as mandated by Title III of the Superfund Amendments and Reauthorization Act (SARA). In accordance with that Act, industry submits to the state thousands of chemical information forms, yet the state has no means to manage or disseminate these data to industry or the public.

The state has no resources to clean up midnight dumping episodes, and local governments and private citizens often get stuck paying the bill.

In 1989 federal facilities such as Rocky Flats are scheduled to begin trucking transuranic wastes for permanent disposal at the Waste Isolation Pilot Project (WIPP) in Carlsbad, New Mexico. Most of these wastes will pass through the I-25 corridor, and local jurisdictions lack the resources to train personnel in proper emergency response methods.

#### Actions

The state should expand its planning, training and response capabilities associated with accidents and spills.

The state should seek legislation and develop sources of funding in order to perform those emergency planning and community right-to-know responsibilities mandated by federal law.

The state should provide seed money for the Emergency Incident Response Fund to assist local governments in cleaning up episodes of midnight dumping.

The state will seek additional funding from the U.S. Department of Energy to provide emergency-response training to local governments affected by WIPP shipments along I-25.

*The state has no resources to clean up midnight dumping episodes, and local governments and private citizens often get stuck paying the bill.*

*Homeowners, realtors, homebuilders and local governments need to know more about the risks associated with radon gas.*

## Hazardous and Radioactive Materials

*Under federal law, Colorado must host a regional disposal site for low-level radioactive wastes.*

### **8. Continue Support for the Uranium Mill Tailings Remedial Action Program.**

#### **Issues**

The Colorado Legislature has provided 10 percent of the financing necessary to clean up 9 radioactive tailings piles and 4000 vicinity properties in 7 western slope towns under the Uranium Mill Tailings Remedial Action Program, and 600 more properties in Grand Junction under the Grand Junction Remedial Action Program. The federal government pays 90 percent of the costs of these projects. Current federal law requires that the projects be completed by 1992.

#### **Actions**

Continued funding of UMTRAP is essential to sustain the cleanup effort. Colorado should make adequate appropriations, eligible for federal matching funds, to finish the cleanup. The Administration will continue to work with the Colorado Legislature to provide adequate state funding for this effort.

### **9. Develop a low level radioactive waste and radium waste disposal site in Colorado.**

#### **Issues**

Colorado, New Mexico, Nevada and Wyoming formed the Rocky Mountain Low-Level Radioactive Waste Compact to comply with radioactive-waste management requirements in the federal Low-level Waste Policy Act of 1982. Colorado industries, hospitals and universities generate low-level radioactive wastes. These, coupled with wastes from Denver Radium sites, constitute over 80 percent of the low-level radioactive wastes generated in the compact states. Therefore, under federal law, Colorado must host a regional disposal site. This site must be operational by 1993.

Low-level radioactive waste disposal siting criteria have been adopted and a site screening process is underway. Seven geologically-suitable areas initially were identified as candidates. Companies have expressed an interest in developing a low-level waste disposal facility in Colorado.

Radium wastes are considered low-level radioactive wastes under the terms of the Compact. The EPA has designated as one superfund "site" 44 separate sites in Denver involving more than 200,000 tons of radium wastes. The state is responsible for finding a permanent disposal site for these wastes.

## Hazardous and Radioactive Materials

Umetco Minerals has proposed developing a facility for the Denver Radium wastes near Uravan, and the Health Department has approved a radioactive materials license for the site. A facility in Utah also is licensed to take the Denver Radium waste.

### Actions

The Colorado Department of Health must update the state's low-level waste management plan to meet its obligation to identify a permanent waste-disposal option. If funds are earmarked, the state will conduct a full review of all options in 1989, including out-of-state disposal facilities and waste reduction techniques for generators.

Because of the high cost of disposal and the trend toward waste reduction, Colorado must conduct a feasibility study to determine which disposal options are most appropriate. The study will assess waste volume, opportunities for and cost of disposal nationwide, suitability of potential sites, trends in waste reduction and geological and engineering criteria to be met before a site is developed. The Low-level Waste Advisory Committee created by the Legislature will assist the state in these decisions.

The Denver Radium waste sites must be cleaned up. With state support, the Rocky Mountain Low Level Radioactive Waste Compact Board recently approved the disposal of this waste at the Utah site. This approval is valid through 1989 unless a Colorado site becomes available and is economically advantageous. Since the Health Department has licensed the Umetco facility near Uravan, the Rocky Mountain Low Level Radioactive Waste Compact Board will be asked to approve this facility as well. Both facilities will likely compete for the contract to dispose of the Denver radium wastes.

### 10. Reduce the threat from radon gas and asbestos in public and private buildings.

#### Issues

Recent evidence links the presence of radon gas in enclosed spaces with an increased incidence of lung cancer. Due to unique geological features, Colorado has the potential for elevated radon gas levels in homes. A ten-state preliminary survey by EPA showed many Colorado homes may have radon levels higher than those the EPA believes safe.

Homeowners, realtors, homebuilders and local governments need to know more about the risks associated with radon gas. The

*Homeowners, realtors, homebuilders and local governments need to know more about the risks associated with radon gas.*

## Hazardous and Radioactive Materials

*Asbestos, which in certain forms is associated with cancer and other health effects, is found in many schools and public buildings in Colorado.*

Governor's Radon Task Force is developing a report on the problem and will recommend steps homeowners may take to assess and reduce the risk.

The Health Department and the Colorado Geological Survey have few resources earmarked to deal with radon problems.

Asbestos, which in certain forms is associated with cancer and other health effects, is found in many schools and public buildings in Colorado. The Air Pollution Control Division currently is reviewing school management plans, consistent with federal asbestos control requirements.

### **Actions**

Colorado and the U.S. EPA need resources to investigate and characterize more thoroughly the radon problem in Colorado. They also should begin a public education campaign to promote understanding among homeowners and homebuilders of radon and its risks.

The departments of health and natural resources, the state's major universities, and the real estate and homebuilding industry, in cooperation with the Governor's Radon Task Force and the EPA, should develop strategies for public education, preventive construction, remediation techniques, clarification of liability issues and research on health impacts.

Expanded education and training also are needed to inform businesses, contractors, administrators and the public about how to protect against asbestos contamination. The Department of Health should complete a survey of public buildings, define the extent of the problem in Colorado and identify solutions. The department should revise its asbestos requirements to make them consistent with recent legislative initiatives, specifically to certify asbestos abatement contractors.

### 1. Establish a statewide open space program.

#### Issues

Growth can blur the identity of cities, towns and communities and diminish the state's attractiveness to prospective businesses. Particular parcels of land can become valuable community assets if they remain undeveloped and are managed for scenic or biologic values, public recreation, ecosystem protection, agricultural production and public safety.

Urbanization often converts prime agricultural lands to other uses, depleting the productive capacity of Colorado's farms.

#### Actions

In cooperation with local governments and other interested parties, the state will design a statewide open space program, consistent with and complementary to existing efforts.

The state is examining options for cooperative management of federal, state and local lands in the mountains west of the Denver metropolitan area in order to achieve open space, recreation and wildlife protection objectives.

The state should monitor carefully the conversion of agricultural lands to other uses. Where development is planned, the state should promote open space as an incentive to economic development and to protect natural values and provide for recreation, consistent with local zoning codes or pursuant to any newly adopted state legislation.

### 2. Manage public lands for long-term public benefit.

#### Issues

Approximately 36 percent of Colorado is under federal ownership. These lands contain many nationally significant attractions and represent a substantial asset to the state.

Public lands in Colorado are used for multiple and sometimes conflicting purposes. Sound land management is essential to maintain and enhance the long-term benefits of public lands.

Healthy forest ecosystems are one of Colorado's most important and visible natural features. Careful management will preserve their natural and economic value for present and future generations.

*Approximately nine million acres of Colorado farmland is eroding at a rate that will not allow current production to be maintained.*

*Approximately 36 percent of Colorado is under federal ownership. These lands contain many nationally significant attractions and represent a substantial asset to the state.*

# Land Management

## Actions

State agencies should work together to develop joint positions on public land management issues. Agencies should consider developing a geographic information system to store, combine and retrieve data on specific parcels relevant to public land management issues.

State and federal agencies will continue to coordinate and cooperate to ensure that the natural and economic value of forests are preserved. Forest management should allow for quality recreation experiences and other important multiple uses, including wildlife, grazing, mineral development and timbering.

The state will work with federal agencies to support protection of lands and rivers of national and recreational significance.

## 3. Minimize the harmful consequences of natural and man-made hazards.

### Issues

Geologic hazards such as landslides, debris flows, avalanches and subsidence threaten the lives, health, economy and property of Coloradans. Flood hazards threaten lives, property and riparian habitat. Human activity often contributes to the occurrence or severity of these hazards. While the prevention of natural disasters is difficult or impossible, their consequences can be reduced through planning, management and response programs.

### Actions

The Colorado Geologic Survey should have adequate resources to inventory potential hazard areas, monitor high probability hazards and provide early warning of potential problems.

The Colorado Division of Water Resources will continue its dam inspection program to determine the safety of Colorado's dams. The division will continue to use the satellite monitoring system to predict floods and allow for early warning and evaluation.

A strong state and local response capability for dealing with the consequences of natural disasters must continue to be available in Colorado.

State agencies should help local governments and developers avoid hazards by strengthening the program of geologic and floodplain review in conjunction with proposed land use changes and construction.

*A strong state and local response capability for dealing with the consequences of natural disasters must continue to be available in Colorado.*

### 4. Protect Colorado's soils.

#### Issues

Over 738,000 acres of Colorado grasslands have been converted to cropland in the past ten years. Much of this land is fragile and subject to damage by human activities.

Approximately nine million acres of Colorado farmland is eroding at a rate that will not allow current production to be maintained.

Sediment resulting from wind and water erosion is seriously reducing the capacity of lakes and reservoirs in the state. Fugitive dust also is creating air quality problems in some communities.

#### Actions

Colorado needs to devise ways to ensure that participation by farmers in the federal Conservation Reserve Program may be extended beyond the 10-year life of the program. For example, tree planting is an option for encouraging participation in the program.

The Soil Conservation Board should implement a coordinated soil erosion and sediment control program and work with other agencies to expand information and education programs.

*Approximately nine million acres of Colorado farmland is eroding at a rate that will not allow current production to be maintained.*

### 5. Protect natural features of statewide importance.

#### Issues

Growth and development may encroach upon scenic areas, valuable waterways, unique ecosystems, rare geological features or other natural features which should be preserved. Colorado needs a system to identify and protect features of statewide importance in a manner which ensures the state's attractiveness to visitors and businesses while preserving traditional private property rights.

#### Actions

The Colorado Natural Areas Program identifies and protects sites that qualify for special protection. The Program should receive adequate staffing and funding.

The state should work with Congress and federal land management agencies to designate and protect suitable areas as part of the national wilderness and wild and scenic river systems.

# Land Management

State agencies should pursue land exchanges, management agreements and conservation easements as cost-effective means of resource protection.

The State Land Board will continue to promote multiple use and preserve the significant natural features of lands under its control, consistent with its statutory mandate to generate revenue.

## Actions

Colorado needs to develop ways to ensure that participation by farmers in the federal Conservation Reserve Program may be extended beyond the 10-year life of the program. For example, tree planting is an option for encouraging participation in the program.

The Colorado State Board should implement a coordinated soil conservation and sediment control program with other state agencies to ensure that sediment and silt do not enter the state's waterways. The board should also ensure that the state's waterways are protected from sediment and silt.

## Issues

Growth and development may encroach upon scenic areas, waterways, riparian corridors, and geological features or other natural features which should be protected. Colorado needs a system to identify and protect features of statewide importance in a manner which ensures the state's attractiveness to visitors and businesses while preserving riparian and scenic values.

## Actions

The Colorado Natural Areas Program identifies and protects sites of statewide significance. The program should receive funding to ensure that the program can continue to identify and protect sites of statewide significance.

The state should work with Congress and federal land management agencies to identify and protect scenic areas as part of the national wilderness and scenic river systems.

A strong state and local response capability for dealing with the consequences of natural disasters must continue to be available in Colorado.

### 1. Ensure environmentally sound mining and mined-land reclamation.

#### Issues

Colorado supports environmentally sound mining and energy industries. The Governor issued an executive order on mining on February 17, 1988, directing state review of regulatory and transportation issues, increased technical support and other actions to encourage mining in Colorado.

Colorado needs to maintain a stable minerals reclamation program to balance the need for mining with the need for environmental protection.

The administration of federal coal regulations does not always provide the flexibility Colorado needs to ensure the use of cost-effective and beneficial reclamation practices.

Toxic materials and mine wastes from past mining activities may threaten public health and the natural environment.

#### Actions

Staff needs in the minerals reclamation program of the Mined Land Reclamation Division must be adequate to encourage and ensure environmentally sound mining.

The state, individually and through the Western Interstate Energy Board, should encourage the federal government to identify environmentally sound and cost-effective coal mining and reclamation technologies which can be implemented through the state's regulatory program. The mining industry should be involved in identifying suitable technologies.

The minerals program of the Mined Land Reclamation Division should continue to identify cyanide heaps, metal mine tailings, mine dumps and other problems which may pose present or future human health problems. The division should evaluate regulatory compliance and revise management plans to address deficiencies. The division will be the lead state agency in dealing with the U.S. EPA to determine the appropriateness of proposed mine waste regulations. The Colorado Department of Health also will be involved in this process.

The state recognizes that the uncertainty and potential magnitude of CERCLA liability may discourage mining, reprocessing and cleanup of old mining sites. Henceforth, state policy will be to

*Colorado needs to maintain a stable minerals reclamation program to balance the need for mining with the need for environmental protection.*

## Minerals and Energy

*Runoff from abandoned mines contaminates many of Colorado's streams and rivers.*

encourage negotiated agreements on cleanup prior to the commencement of work. The state expects that this policy will expedite cleanup and give private operators greater certainty about their liability under CERCLA.

### **2. Reduce health and safety hazards at abandoned and inactive mines.**

#### **Issues**

Some inactive mines exist in heavily traveled areas and often pose public safety threats.

Mine subsidence in developed areas along the Front Range could result in property damage or loss.

Access to inactive mine sites for reclamation work is increasingly difficult due to prospective CERCLA liability and complex land ownership patterns.

Runoff from abandoned mines contaminates many of Colorado's streams and rivers. Federal funding for the inactive mine program will end in 1992, before some mine problems are likely to be resolved.

#### **Actions**

The state should continue to seal hazardous mine openings while working to preserve the historic integrity of Colorado's mining districts.

The Division of Mines will continue to provide technical assistance to promote worker health and safety.

The inactive mines programs of the Department of Natural Resources should continue development of a mine subsidence protection program for specified areas of the state, and provide technical information on this issue as requested by local governments.

The departments of Natural Resources and Health should pursue cooperative agreements with the U.S. EPA to resolve "responsible party" problems and to continue to develop low cost, low maintenance mine drainage treatment systems.

Using Surface Mining Control and Reclamation Act funds, the state will establish a trust fund to continue its inactive mine program beyond the end of the federal program in 1992.

### 1. Develop and promote Colorado's state park system.

#### Issues

To provide a quality recreation experience in Colorado and to keep pace with our increasing visitor demands, recreation facilities need to be expanded and well maintained. Lands also need to be identified and set aside to meet Colorado's future recreation needs.

The economic benefits of the state park system are dependent upon well managed parks which attract and retain a strong user constituency.

#### Actions

The Division of Parks and Outdoor Recreation is developing a management and marketing plan for each state park to improve services, attract visitors and protect important park features.

The division also is implementing a 5-year acquisition and development plan for additions to the state park system.

The division is considering assuming management of federal areas where intensive recreation-oriented management is needed.

Quality state parks require sufficient funding from a variety of sources. Continued use of lottery proceeds must be assured, and the division will seek modest increases in parks fees during the 1989 legislative session.

*The economic benefits of the state park system are dependent upon well managed parks which attract and retain a strong user constituency.*

### 2. Promote river recreation.

#### Issues

River management must keep pace with growing use to ensure safe conditions, protect present and future water rights and compact allocations, protect rivers and manage fish and wildlife in both urban and rural settings.

Colorado recognizes the economic significance of rivers to state and local economies. River recreation has surged recently. The number of private boaters has doubled in the past 3 years and commercial raft trips are projected to double in the next 5 years. In some cases the state may need to regulate these activities to protect rivers from over-use and to prevent certain activities from crowding out others.

# Outdoor Recreation

## Actions

The Colorado Division of Parks and Outdoor Recreation is considering a "state rivers" program to promote river recreation while recognizing the legitimacy and primacy of water rights. River recreation corridors also could serve as open space and greenbelts in urban areas.

### 3. Promote access to outdoor recreation.

#### Issues

Information about recreation in Colorado often is confusing due to the number of federal, state and local agencies and the breadth of recreation choices. Revised programs are needed to increase public access to information, coordinate distribution of information by the various agencies, and encourage dispersed use of recreational resources.

Access to many public lands is cut off by private property.

#### Actions

Through the Colorado Outdoor Recreation Resource Project (CORRP), public recreation providers will continue to explore ways to coordinate programs and promote Colorado's outdoor recreation.

One recent example of CORRP's efforts is a brochure providing information on all outdoor recreation opportunities in Colorado which was developed by state and federal agencies. The brochure is intended to inform the public of the wide range of recreation options and encourage dispersed use of those resources.

State agencies should work with land owners, community groups and other public agencies to improve access to federal lands through easements, land exchanges or public-private partnerships.

*Through the Colorado Outdoor Recreation Resource Project (CORRP), public recreation providers will continue to explore ways to coordinate programs and promote Colorado's outdoor recreation.*

### 1. Verify that the applicant meets conditions set for the Two Forks permit.

#### Issues

The Denver Water Board has applied for federal permits to construct the Two Forks Dam and Reservoir on the South Platte River in Cheesman Canyon. On June 10, 1988, the Governor wrote the federal permitting agencies supporting the application if conditions on environmental mitigation, water conservation, development of interim water supplies and creation of a metropolitan water agency are attached to the permit.

In August 1988 the U.S. Army Corp of Engineers informed the Governor that its permit legally could be conditioned only on environmental mitigation and water conservation and not on development of interim water supplies and a metropolitan water agency.

The Governor and the Department of Natural Resources subsequently negotiated a water conservation condition for inclusion in the permit. The Denver Water Board and the Mayor of Denver also sent a letter to the Governor committing to his conditions that they develop interim water supplies and establish a metropolitan water agency before building Two Forks.

#### Actions

The Denver Water Board will submit biennial reports on its progress toward fulfilling its commitment on interim water supplies. The Governor's Office and the Colorado Department of Natural Resources will review these reports. The Colorado Water Conservation Board also will make a finding on the fulfillment of these commitments before the applicant can begin construction of the project.

### 2. Promote efficient use of Colorado water.

#### Issues

Population growth in Colorado will increase demand for water. Given the financial and environmental costs of new storage facilities, and recognizing that some basins already use all, or nearly all, available water supplies, the state must ensure that existing supplies are used efficiently and that our legal system maximizes that efficiency.

*The Denver Water Board will submit biennial reports on its progress towards fulfilling its commitment on interim water supplies.*

## Water Management

*The Administration will work to identify and promote additional water conservation strategies in urban areas.*

In November 1988 the Governor reached agreement with the Denver Water Board and metropolitan water providers on a conservation program designed to achieve 42,000 acre feet of savings throughout the metro area by the year 2010. This would be nearly a 10 percent reduction in demand. The Governor asked that the program be used by the U.S. Army Corps of Engineers as a condition of any permit for the Two Forks Dam and Reservoir.

Significant additional savings in municipal water use are possible through known strategies. Yet Colorado has no statewide municipal water conservation standard and no effective state or metropolitan-wide entity to promote these strategies.

A large majority of the state's water is consumed by agriculture, and a number of strategies exist to reduce this consumption without reducing agricultural production. However, the state offers few incentives to farmers and ranchers to implement these strategies.

### **Actions**

Colorado supports a water conservation program as a condition of any permit for the Two Forks Dam and Reservoir. The Governor's Office and the Department of Natural Resources will follow the implementation of the program and insist that the U.S. Army Corps of Engineers verify and enforce it.

The Administration will encourage the General Assembly to adopt a statewide municipal water conservation program. The program should not entail drastic lifestyle changes, but should encourage efficient water use through plumbing codes and other strategies.

The Administration will work to identify and promote additional water conservation strategies in urban areas. The administration and other state entities also may work with public education about water conservation.

The state should consider strategies to encourage greater savings in the agricultural sector. State policy should provide incentives to farmers and ranchers to achieve water efficiencies, perhaps by allowing them to lease or sell to municipalities the water they save.

Also in agricultural areas, the state should offer educational programs, encourage irrigation-system and well evaluations, and promote improved irrigation practices.

The state should promote better interagency coordination, assistance in data collection and distribution and advice to water users. The satellite monitoring system has proven effective in the administration of interstate compact waters and also could provide data on soil moisture, evaporation rates, humidity, and other factors to improve irrigation practices.

### 3. Provide protection for basins-of-origin.

#### Issues

Diversion of water from one basin to another is a basic tenet of Colorado water law and will continue in the foreseeable future. But the loss of water in the basin-of-origin can cause environmental and economic damage and the loss of future development opportunities.

Current state law requires only certain diverters of water to compensate the basin-of-origin. For instance, under state law municipalities have no legal obligation to mitigate damage caused to the basin-of-origin by diversions.

#### Actions

The state should extend basin-of-origin protection to cover future diversions of water in Colorado. This might be done by requiring diverters to compensate the basin-of-origin through funding for compensatory storage, guaranteeing minimum stream flows or using some other innovative approach. State policy should be flexible enough to allow the solution to best reflect the needs and resources of the diverter and the basin-of-origin.

### 4. Maintain Colorado's instream flow program.

#### Issues

Colorado's instream flow program has been in place since the early 1970s. Some Coloradans maintain the program is not adequate to provide for reasonable instream flows to preserve important natural features and habitat and to enhance recreation opportunities.

Water rights questions have delayed congressional action on 18 candidate wilderness areas in Colorado totaling 700,000 acres.

*The state should extend basin-of-origin protection to cover future diversions of water in Colorado.*

## Water Management

*The Colorado Water Conservation Board will continue to pursue innovative approaches to instream flow problems.*

*The Administration will work to identify and promote additional water conservation strategies in urban areas.*

### **Actions**

State law allows the Colorado Water Conservation Board to appropriate water rights for instream flows to "protect the natural environment to a reasonable degree." The board has appropriated rights on nearly 6,000 miles of streams and 500 natural lakes. Colorado should continue to support and fund this effort.

In addition, the Colorado Water Conservation Board will review the existing program to see if it adequately protects important environmental and recreational values.

The board will continue to pursue innovative approaches to instream flow problems. These might include using water rights purchased and transferred to the board for endangered species and exercising the board's power to protect reservoir releases made expressly for instream flows for fish and wildlife purposes.

Colorado's U.S. Senators have formed a negotiating group with broad representation to seek a workable and fair resolution to the controversy over wilderness water rights. The Department of Natural Resources has prepared technical information on priority water rights upstream of proposed wilderness areas and will continue to assist the negotiating group as needed.

## **5. Implement policies to balance development and environmental needs.**

### **Issues**

A variety of often competing interests affect the development and management of Colorado's water resources. The state has helped reconcile the economic and environmental values of water in specific cases, and must continue to serve this function.

### **Actions**

H.B. 1158 (1987 Session) established a process to develop the state position on wildlife mitigation for individual water projects. The position is set by agreement between the Wildlife Commission and the project proponent, with review and concurrence by the Colorado Water Conservation Board and the Governor. The state will promptly and effectively implement this new procedure.

The state, environmentalists, developers and other interested parties have negotiated the Recovery Program for Endangered Colorado River Fish to protect and recover endangered fish species without preventing future water development. Negotiations are underway for a similar agreement to protect whooping crane habitat on the Platte River. The state should encourage such cooperative settlements.

### 6. Reconcile state and federal approaches to permitting.

#### Issues

Federal involvement in water development issues has increased dramatically in the past two decades through legislation such as the National Environmental Policy Act and the Clean Water Act.

State policy has not adequately responded to this new reality. The result is a system which provides no guidance on issues of "statewide interest," "public interest" or other criteria which the federal government increasingly uses in its permit decisions.

By not providing such guidance, Colorado has abandoned to the federal government more control over the development of its water than it otherwise would need to.

#### Actions

The executive and legislative branches should work together to develop a policy which better allows Colorado to respond to the new realities of federal involvement in water issues. The goal of this policy should be to reclaim for Coloradans the greatest control over water development.

Such a policy should identify ways to channel public debates over water development into forums or through a set of laws designed by and for Colorado, not the federal government.

*Federal involvement in water development issues has increased dramatically in the past two decades through legislation such as the National Environmental Policy Act and the Clean Water Act.*

*State and local governments in Colorado need to develop ordinances and regulations to control ground water contamination sources within watershed protection areas.*

### 7. Manage Colorado's ground water supplies.

#### Issues

Increased reliance on tributary ground water for water supplies may reduce surface water availability. Long-term water supplies may be reduced or become more costly if water quality or depletion problems develop.

## Water Management

## Actions

Part of the funds generated by S.B. 200 (1987 Session) will be used for a state network of ground water observation wells. This network will monitor water levels in the state's aquifers, provide data on water quality and the effects of pumping, and provide engineering information to facilitate efficient aquifer management. The data also may be used to promote ground water conservation in areas of substantial depletion.

### 1. Protect against contamination of drinking water supplies.

#### Issues

During the 1988 session, the General Assembly enacted legislation allowing the state to set drinking water standards for pollutants for which the federal government has not set standards. While this new authority will help protect public health, the Department of Health is specifically prohibited from using it for areas designated as Superfund sites, even though these are among the worst polluters of drinking water supplies in the state.

The ability of drinking water systems to comply fully with drinking water standards is limited by the following:

- State and local governments do not have the authority to control potential sources of pollution within wellhead protection areas to prevent contamination of water supplies.
- Some small communities in Colorado cannot afford adequate treatment and filtration systems to assure safe drinking water. Community grant and loan programs supply insufficient resources for these systems. Between \$80 million and \$120 million is needed to provide these systems.

#### Actions

The Department of Health will examine the need for further legislation to address enforcement limitations at Superfund sites contained in the 1988 drinking water legislation.

State and local governments in Colorado need to develop ordinances and regulations to control ground water contamination sources within wellhead protection areas.

The State needs to find alternatives to help financially strapped communities fund drinking water systems.

### 2. Prevent future and alleviate existing ground water contamination.

#### Issues

Colorado has many cases of site-specific ground water contamination and several possible cases of regional contamination. Cleaning up ground water contamination after it has

Toxic chemicals in surface water can impair aquatic life even when traditional water quality standards are met.

The Water Quality Control Commission plans to adopt standards and regulations to prevent ground water contamination and establish criteria for the cleanup of existing contamination.

*State and local governments in Colorado need to develop ordinances and regulations to control ground water contamination sources within wellhead protection areas.*

## Water Quality

*The Water Quality Control Commission plans to adopt standards and regulations to prevent ground water contamination and establish criteria for the cleanup of existing contamination.*

occurred is difficult and expensive. The Water Quality Control Commission has taken a step forward by adopting a framework for future ground water quality standards and classifications. This framework is designed to protect ground water only after site- or activity- specific regulations or classifications are adopted. The WQCC recently endorsed a strategy for adopting the needed additional regulations.

Radiation in ground water can contaminate drinking water supplies. Coloradans need information on groundwater radioactivity to determine the risk of radiation exposure in individual drinking water supplies.

Colorado also has a very limited ground water-quality monitoring program for many other potential contaminants.

### **Actions**

The Water Quality Control Commission plans to adopt standards and regulations to prevent ground water contamination and establish criteria for the cleanup of existing contamination. These criteria should include: standards which are immediately applicable and enforceable for ground water across the state; activity- or site-specific control regulations or classifications for major uncontrolled pollution sources and contamination sites; and amendments to the state's discharge permit regulations to control discharges to ground water.

The Health Department should establish a systematic ground water-quality monitoring program to assure the state's ground water remains safe for human consumption and other uses.

The Colorado Department of Health needs to conduct a systematic survey of radioactive levels in ground water and recommend remedial actions to reduce health risks.

The State plans to expand its ground water data management system and enhance its computer modeling capability in coordination with the Department of Natural Resources.

The Colorado departments of health and natural resources and the Governor's Office are implementing an executive order and an interagency memorandum of understanding to ensure that all state programs which effect ground water also are consistent with Colorado's ground water quality regulations.

### 3. Maintain and enhance the quality of Colorado's lakes and streams.

#### Issues

Colorado has some of the most beautiful streams and lakes in the country, and for the most part they are of high quality. However, many stream segments have been degraded by municipal and industrial discharges, urban runoff, mining discharges, agricultural runoff and illegal dumping. Further, many lakes are being degraded by nutrient loading from non-point sources and municipal and industrial discharges.

The Environmental Defense Fund and other organizations have challenged the Water Quality Control Commission's antidegradation regulation, which regulates the degradation of streams or lakes in which the water quality is higher than necessary to protect the classified uses of the water. These groups have sued the U.S. EPA alleging that EPA has not forced the Commission to bring the state policy into compliance with the federal Clean Water Act.

The 1987 amendments to the federal Clean Water Act emphasize the control of toxics in treated wastewater. Toxic chemicals in surface waters can impair aquatic life even when traditional water quality standards are met. Those chemicals must be controlled in wastewater discharges to ensure they do not impair aquatic life in streams.

Colorado's infrastructure for wastewater treatment needs substantial improvement. The Water Quality Control Commission estimates the cost of needed facilities at \$135 million over the next 18 years. The 1987 federal Clean Water Act amendments provide states the opportunity to establish a self-sustaining financing mechanism for these investments through a revolving loan program which would replace the current construction grants program. Federal matching funds are available to establish this fund only through FY 1994.

Water quality problems associated with nonpoint sources clearly are more vexing than those associated with point sources. Some nonpoint source problems are particularly severe due to mine drainage, urban and construction runoff and agricultural runoff. Over 1000 miles of mountain streams in Colorado have been damaged due to mine drainage and chemicals leached from old mining waste materials.

*Toxic chemicals in surface water can impair aquatic life even when traditional water quality standards are met.*

## Water Quality

### Actions

The state will work to clean up and protect contaminated urban streams and lakes so they can serve as focal points for recreational activities such as hiking, fishing, swimming and boating. In metro Denver, we must maintain the quality of lakes and improve the quality of Clear Creek, Bear Creek, Cherry Creek and the South Platte River.

The Health Department and the Water Quality Control Commission have revised the state's antidegradation standard to assure compliance with the federal Clean Water Act while not stifling economic development. The changes provide for a wider application of antidegradation to streams and lakes that previously were protected by use classifications only. The changes also establish a new process to determine whether degradation of high quality waters will be allowed, based on an assessment of the availability of non-degrading alternatives.

Colorado is developing a mechanism to generate state and local matching funds for federal money available to address nonpoint source pollution under the Clean Water Act. The departments of Health and Natural Resources will work with local interests to develop reasonable approaches to nonpoint source pollution problems. State and federal agencies should work together to focus available resources and efforts on cleaning up those basins with serious mine-related pollution impacts. Particular attention needs to be given to the Clear Creek and upper Arkansas River basins.

Colorado has drafted regulations for and is seeking legislation to provide funds to implement an industrial pretreatment program to reduce toxic chemical and hazardous waste discharges and illegal dumping into our sanitary sewer systems. The state must develop more effective mechanisms for monitoring these discharges and for identifying sources of toxic chemicals within wastewater systems.

The Legislature has authorized a state revolving loan program to help meet wastewater treatment needs. The Administration is establishing interagency agreements to implement this program to ensure that federal funds can be used to help communities meet their future needs.

*The departments of Health and Natural Resources will work with local interests to develop reasonable approaches to nonpoint source pollution problems.*

### 4. Maintain adequate resources to implement water quality control and drinking water programs.

#### Issues

Over the past few years, the federal water quality control and drinking water programs have expanded considerably due to a number of factors, including increased concerns over radioactivity and organic contamination in our drinking water supplies, added emphasis on toxicological analyses and limitations in waste water discharges, increased recognition of the need to control various nonpoint sources of pollution, and emerging issues associated with ground water quality protection. Although the Legislature did provide funding for the state ground water quality program during the past session, overall federal and state funding has remained essentially constant for the past five years for the two programs and will decrease beginning in FY 1991.

#### Actions

The Department of Health should identify the longer-term funding needs for the Water Quality Control Division programs, identify impacts should these declining funding trends and increasing program demands continue, examine alternative sources for meeting the needs defined, and actively communicate the results of these efforts with various interest groups. Enabling legislation to address financial shortfalls likely will be needed.

*Over the past few years, the federal water quality control and drinking water programs have expanded considerably.*

## Wildlife

*Habitat preservation is the most important ingredient in protecting and enhancing wildlife resources.*

### 1. Protect and enhance wildlife and its habitat.

#### Issues

Colorado's wildlife has both intrinsic and economic value. Habitat preservation is the most important ingredient in protecting and enhancing wildlife resources. It is important that areas of critical habitat be known and considered before land use decisions are made.

Preservation and enhancement of habitat historically has been the responsibility of the Colorado Division of Wildlife, supported by hunting and fishing license fees. As wildlife-related recreation becomes more diverse, a broader base of financial support is needed for the division to continue its habitat preservation and enhancement activities.

#### Actions

Through the implementation of H.B. 1158 (1987 session), the state will set mitigation levels for wildlife habitat impacts of future water projects. Along with the Division of Wildlife's new mitigation policy, this process should ensure timely, consistent and balanced mitigation practices.

Through existing programs, the state will continue to advise federal farm program participants on ways to enhance wildlife habitat on "retired croplands" and non-farmable parcels.

The Division of Wildlife will work closely with local governments and federal land management agencies to ensure that wildlife values are considered in land use decisions.

The Division of Wildlife is encouraging landowners to view wildlife as an asset through incentive programs such as wildlife ranching and other programs which recognize landowners who create opportunities for wildlife.

### 2. Enhance hunting, fishing and other wildlife recreation opportunities.

#### Issues

Interest in wildlife-related recreation is expanding beyond hunting and fishing to include other uses such as wildlife viewing and photography.

## Wildlife

The public should be encouraged through educational and other programs to increase its appreciation and enjoyment of the state's wildlife resources.

Fishing in Colorado is expected to grow from about one million user-days in 1986 to 1.5 million user-days by the turn of the century. Demand for warm-water fish species will increase 40 percent by the year 2000. The state's hatchery system is at capacity and no new funding is readily available.

Water quality, particularly in urban lakes and streams, needs to be improved to support top-quality fisheries and enhance other recreation uses.

The public often is denied access to public lands and waters by intervening private property.

### **Actions**

Colorado is developing a "Watchable Wildlife" program to focus public interest in wildlife and to determine what services the wildlife-watching public needs.

The Division of Wildlife is surveying hunting license holders to determine hunting preferences. The state should encourage a diversity of hunting opportunities and promote less-used opportunities such as small mammal hunting.

The Division of Wildlife's "Project Wild" and its co-sponsorship of the Institute for River Ecology help promote awareness of wildlife ecology among Coloradans.

The State Land Board has adopted a special-use recreational policy which allows public access to some of the lands under its control.

More than 14 million trout are stocked annually in the Denver metro area. Stocking must expand to meet future demands.

To meet growing demands for warm-water species, the new Pueblo Hatchery will provide bass, walleye, wipers and other species. Additional funding will be necessary to expand hatchery capacity.

"Fishing is Fun" program grants to local communities will open up new fishing opportunities and help improve local economies by increasing tourism. The program is designed to provide better access and improvements to lakes and streams.

*Fishing in Colorado is expected to grow from about one million user days in 1986 to 1.5 million user days by the turn of the century.*

## Wildlife

*Twenty-three species in Colorado are currently classified by the state and federal governments as threatened or endangered.*

The departments of Health and Natural Resources should work with the Water Quality Control Commission to find reasonable and workable means to reduce or remove those pollutants which inhibit the ability of some rivers to support large fish populations. Initial cleanup efforts should focus on rivers such as the Arkansas, Rio Grande, Animas, Eagle, lower South Platte, San Miguel and Uncompahgre.

### **3. Protect threatened and endangered species in Colorado.**

#### **Issues**

Twenty-three species in Colorado are currently classified by the state and federal governments as threatened or endangered. Without specific efforts to protect and improve the status of these species and their habitats, they may disappear from the state.

#### **Actions**

The Division of Wildlife should continue recovery programs for species which are in or near threatened and endangered status to detect further declines. The state also should pursue multi-state cooperative efforts to ensure that the regional needs of species are met.

The state should continue its efforts to protect or reintroduce endangered and threatened fish species such as the Colorado squawfish, humpback chub, and greenback cutthroat trout.

The division should determine the habitat needs of threatened and endangered species and identify ways to meet these needs.

Populations of peregrine falcons, river otter, and plains sharp-tailed grouse should be transplanted to underutilized habitats.

### **4. Provide a sound base for the future funding of wildlife programs.**

#### **Issues**

The Division of Wildlife is financially self-supporting. It relies on license fees and federal excise taxes on hunting and fishing related products. Because program costs are increasing faster than traditional sources of revenue, such as hunting fees, the division will need to find new sources of revenue to pay for the management of both game and non-game wildlife.

### Actions

In the short term, the legislature should consider raising the license fees for those wildlife programs that are not self-supporting.

In the long term, the state should consider new user fees and other means of assessing passive wildlife users.